application of a mask onto the semiconductor substrate for definition of a window delimited by a peripheral edge;

C1 cont

production of an n-doped trough in the p-doped semiconductor substrate or p-doped trough in the n-doped semiconductor substrate by means of ion implantation through the mask using an energy that will assure that a p-doped inner area remains on a surface of the p-doped semiconductor substrate or an n-doped inner area remains on a surface of the n-doped semiconductor substrate, whereby a fringe area of the n-doped trough or p-doped trough extends up to the surface of the semiconductor substrate; and

production of additional n-doped and/or p-doped areas in the p-doped or n-doped inner area and in the fringe area of the n-doped or the p-doped trough that form the structure of the semiconductor component.

C2 6. (Amended) The method of Claim 5, wherein the p-doped area forming the emitter of the transistor has heavier doping than that of the semiconductor substrate.

C3 14. (Amended) The method of Claim 13, wherein a p-doped area having heavier doping than that of the p-doped inner area is inserted in the regions of the p-doped inner area forming the drain and the source, respectively.

Kindly add the following new claims:

C4 28. (New) The method of claim 1 wherein the energy of said ion implantation is at least 2 MeV.

29. (New) The method of claim 1 wherein the energy of said ion implantation is about 6 MeV.

C4 cont.

30. (New) The method of claim 1 wherein the ion implantation energy is 6 MeV phosphorous ions at a dose of 2×10^{13} atoms/cm^2.